

NOTES ON THE MOSSES OF JUAN FERNANDEZ AND SOUTHERN
SOUTH AMERICA

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A recent study of the mosses of the Juan Fernandez Islands off the coast of Chile has resulted in the discovery of three new species and has shown the need for some nomenclatural changes. The necessary additions and changes are presented here along with some notes on related species. Appended are notes on the distinctive Duseniella of Chile and Bucklandia of Tierra del Fuego. The sequence of the genera is according to the recent listing of families (Robinson, 1971).

Fissidens

Fissidens ornaticostatus H. Robinson, new species (Figs. 1-2)
Plantae pusillae. Caules ca. 1 mm longi. Folia disticha 1.2 mm longa ca. 0.25 mm lata oblongo-elliptica acuta non acuminata margine minute serrulata prope basim minute dentata, laminis vaginantibus ca. 0.6 mm longis inaequalibus apice conjunctionibus interdum brevissimis, lamina dorsali ad basim sensim decurrente; nervo 25-30 μ lato ad cellulas 5-6 sub apice attingente, cellulis centralibus nervi (Fig. 1) biserialibus prominentibus 12-25 μ latis 30-70 μ longis subbasalibus 75-130 μ longis, cellulis externis utrinque transparentibus anguste fusiformibus 4-5 μ latis 20-40 μ longis; cellulis laminarum irregulariter multi-angularibus 8-10 μ diam. marginalibus interdum 6 μ diam., eis juxta nervum 12 μ diam., juxta nervum basim versus 18-40 μ longis 12 μ latis; cellulis submarginalibus nonnullis laminarum vaginantium plerumque elongatis ad 35 μ longis. Caetera ignota.

Type: JUAN FERNANDEZ: Mas a Tierra: V. Colonial, Q. Seca, 455 m, Skottsberg 26 in part (Holotype, S; isotype slide, US).

The new species is most closely related to Fissidens leptochaete Dus. which occurred in the same collection, but the former differs by the very prominent inner cells of the costa, the nonacuminate leaf tip and the essentially non-papillose leaf cells. Walls over the cell lumens are often a little thickened in the centers.

Rhacomitrium

A number of species from southern South America are notable

for the relatively stout costa of the leaves. The two most frequently cited species are Rhacomitrium nigritum Jaeg. and R. subnigritum (C.Müll.) Par. This distinctive group of species reaches its extreme form in Rhacomitrium bartramii (Roiv.) H. Robinson, new comb., basionym: Bucklandia bartramii Roiv., Arch. Soc. Zool. Bot. Fenn. Vanama 9(2): 91. 1955, of Tierra del Fuego. This last species has the costa totally filling the leaf apex and spores up to 28μ in diameter. The characters distinguish the species well, but they do not seem to justify separate generic status. The reduction of the monotypic genus avoids the need to provide a new name for Bucklandia Roiv. which is a later homonym.

Dicranoloma

Dicranoloma kunkelii H. Robinson, new species (Fig. 3)
 Planta dioica robustiuscula laxe caespitosa ad 5 cm alta. Caules erecti, sectione transversa fasciculum centralem pusillum ostendit. Folia 8-10 mm longa regulariter falcato-secunda anguste lanceolata in apicem longissimam flexuosam prolongata; nervis inferne ca. 50μ latis breviter excurrentibus apice marginaliter et abaxialiter distincte denticulatis; cellulis 10-12 μ latis, inferioribus valde porosis ad 100μ longis, cellulis superioribus (Fig. 3) plerumque brevibus oblongis vel subquadratis 10-20 μ longis luminibus cellularum laminarum sectione transversa dorso-ventraliter compressis. Caetera ignota.

Type: JUAN FERNANDEZ: Mas a Tierra: Cordon rechts v. Yunque, 500 m, Kunkel 312/4 (Holotype, B; isotype, US). Paratype: JUAN FERNANDEZ: Mas a Tierra: Quebrada Damajuana, 400-450 m, C. & I. Skottsberg M216 (S).

The species is easily distinguished by the very short but large upper leaf cells. The habit is similar to that of Dicranoloma billardieri (Brid.) Par., but the leaf tips are more flexuous. The differences in areolation and leaf tip indicate that the new species is not particularly closely related to either D. billardieri or any other species in the area.

Thamnobryum

The recent study indicates that there are five distinct species of the genus in Juan Fernandez. The older name for the genus, Thamnium B.S.G., is a later homonym and transfers to the genus Thamnobryum Nieuwl. are necessary. The five species from Juan Fernandez are as follows. Thamnobryum carolii (Broth.) H. Robinson, new comb., basionym: Thamnium carolii Broth. in Skottsberg, Nat. Hist. Juan Fernandez 2: 431. 1924. Thamnobryum confertum (Mitt.) H. Robinson, new comb., basionym: Porotrichum confertum Mitt., Rep. Sc. Res. Voyage Challenger Bot. 1 (4): 81. 1885. Thamnobryum ingae (Broth.) H. Robinson, new comb., basio-

nym: Thamnium ingae Broth. in Skotts., Nat. Hist. Juan Fernandez 2: 432. 1924. Thamnobryum proboscideum (Broth.) H. Robinson, new comb., basionym: Thamnium proboscideum Broth. in Skotts., Nat. Hist. Juan Fernandez 2: 433. 1924. Thamnobryum rigidum (Mitt.) H. Robinson, new comb., basionym: Porotrichum rigidum Mitt., J. Linn. Soc., Bot. 12: 467. 1869. The latter species is compared with the closely related New Zealand species, Thamnobryum pandum (Hook. f. & Wils.) Stone & Scott.

Duseniella

The genus Duseniella Broth. has been placed in the family Meteoraceae but examination shows that the genus has little in common with that family. On the contrary, the genus has all the characters of the Hookeriaceae including undifferentiated alar cells, double costae and furrowed peristome teeth. The calyptrae are short and conical with sparse hairs. Unfortunately, the name Duseniella is preoccupied and the following change is necessary:

Bryoduseniasia H. Robinson, nom. nov. for Duseniella Broth., Nat. Pfl. 1 (3): 812. 1906, not Duseniella K. Schum in Just, Jahresb. 23 (1): 475. 1902. The genus contains one species, Bryoduseniasia genuflexa (C. Müll.) H. Robinson, new comb., basionym: Pilotrichum genuflexum C. Müll., Linnaea 18: 676. 1845. The species can be most easily recognized by its slender zigzag leaf tip with prominent retrorse serrations.

Achrophyllum

The new name Achrophyllum Vitt & Crosby was provided recently (1972) for the genus treated by Brotherus under the name Pterygophyllum. Three species occur in Juan Fernandez and two of these have not yet been transferred. Achrophyllum anomalum (Schwaegr.) H. Robinson, new comb., basionym: Racopilum anomalum Schwaegr., Sp. Musc. Suppl. 3 (2): 278. 1830. Achrophyllum tenuinervis (Broth.) H. Robinson, new comb., basionym: Pterygophyllum tenuinerve Broth. in Skotts., Nat. Hist. Juan Fernandez 2: 435. 1924.

Sematophyllum

Sematophyllum kunkelii H. Robinson, new species. Planta dioica mediocris luteo-vel aureoviridis. Caules prostrati ad 6 cm longi irregulariter dense multoramosi. Folia subsecunda ca. 2 mm longa 0.35 mm lata oblongo-ovata leviter concava sensim anguste rigide acuminata margine erecta vel inferne incurva superne leniter serrulata, nervis nullis, cellulis mediis linearibus 6-7 μ latis 60-80 μ longis apicalibus sensim brevioribus ad 25 μ longis basilaribus luteis ad 40 μ longis porosis alaribus

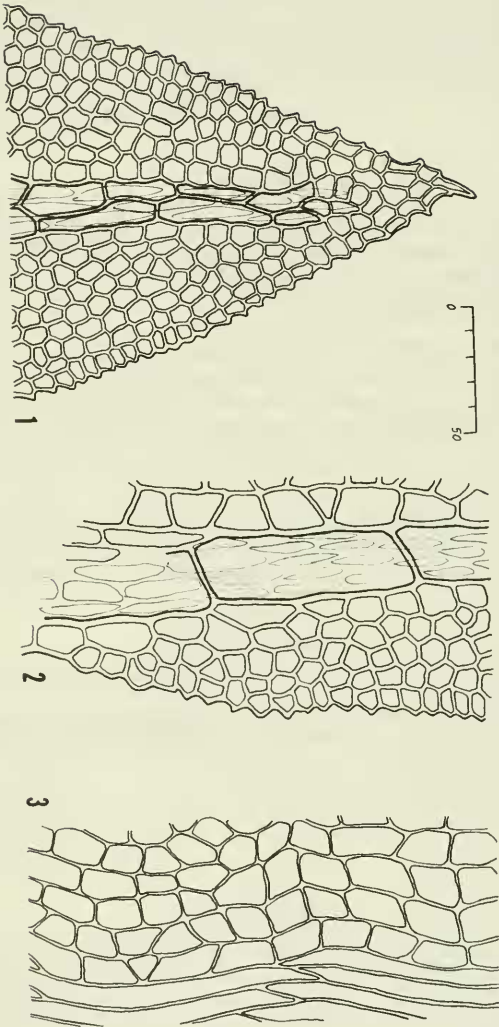
prominentibus 2-3 x 4-5 seriatis hyalinis vel luteolis majoribus rectangularibus 25 μ latis 75 μ longis, cellulis alaribus superioribus foliorum veteriorum saepe rhizoidea producentibus. Folia perichaetialia ad 1.5 mm long oblongo-ovata apicibus ca. 0.25 mm longis abrupte aliquantum breve acuminatis margine distincte dense minute dentata, cellulis apicalibus ca. 25 μ longis. Setae ca. 10 mm longae rubescentes laeves. Capsulae suberectae ovaes inoperculatae ca. 1.5 mm longae. Sporae 12-15 μ diam. minute papilloosae.

Type: JUAN FERNANDEZ: Mas a Tierra: Wand Damajuana, Nordgrat, 550 m, freistehend, Kunkel 317/18a (Holotype, B; isotype, US). Paratypes: JUAN FERNANDEZ: Mas a Tierra: Cordon rechts v. Yunque, Muster vom Waldboden in 500 m Höhe, Kunkel 312/3b (B); Quebrada Damajuana, 400-450 m, Skottsberg M208 (S); Forests of Villagra, 400-550 m, Skottsberg M232 (S).

The species seems to be endemic to Mas a Tierra. Material was reported by Bartram (1957) as Sematophyllum masafuerae, and the species is very closely related. Sematophyllum kunkelii differs by its smaller and less lustrous leaves.

Literature Cited

- Bartram, E. B. 1957. Mosses collected during Dr. and Mrs. C. Skottsberg's second expedition to the Juan Fernandez Islands, December 1954 to March 1955. *Ark. Bot. ser. 2*, 4: 29-43.
- Robinson, H. 1971. A revised classification for the Orders and Families of mosses. *Phytologia* 21: 289-293.
- Vitt, D. H. & M. R. Crosby 1972. Achrophyllum—A new name for a genus of mosses. *The Bryologist* 75: 174-175.



Mosses of Juan Fernandez. Figures 1-2. Fissidens ornati-
costatus H.Robinson; 1. Leaf tip; 2. Base of leaf. Figure 3.
Dicranoloma kunkelii H.Robinson, upper leaf cells near margin.